

AN ANOMALOUS NEW SPECIES OF MOTH FROM
CALIFORNIA (LEP., PHALAENIDÆ,
APATELINÆ)

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Identification of material submitted by Mr. H. H. Keifer for the State of California Department of Agriculture necessitated description of one new species with notes on related genera and species.

Apamea keiferi Benjamin, n. sp.

Male antenna ciliate and fasciculate, the joints marked. Prothorax with a small keel-like crest, metathorax with a spreading bifurcate crest, abdomen with a dorsal series of small crests. Tibiæ unarmed in one specimen, armed with a single spine between the spurs on each hind tibia in two specimens. Head, entire thorax, and fore wing cream yellow; the latter with the markings practically obsolete except for a few orange-colored scales obscurely indicating the reniform; fringe nearly concolorous, tinged with some purplish, obscurely interlined. Hind wing creamy white but largely appearing fuscous because of a suffusion over the entire wing excepting the costal and inner margins. Beneath pale cream color, the inner margins of all wings inconspicuously paler than the discs; fringes nearly concolorous, on the fore wing slightly tinted with purplish. Expanse: ♂ 34 mm.

Type localities and number and sexes of types: Holotype ♂ and 1 ♂ paratype, Cedarville, Modoc County, Calif., IX, 14, '33, M. L. Jones, collector; 1 ♂ paratype, Eagleville, Modoc County, Calif., Sept., 1925, J. Maillard, collector.

Types in U. S. National Museum, excepting one paratype returned to H. H. Keifer. Cat. No. 50661 U. S. N. M.

Notes: The present species is so similar in superficial appearance to pale and nearly immaculate specimens of *Protagrotis obscura* B. & McD., of which there is a long series in the National Collection, also from Modoc County, Calif., that the two species may easily be confused. *P. obscura* has the male antenna slightly serrate, and the male genitalia distinctly protruding. The new species has a beaded and fasciculated male antenna, and the male genitalia retracted, the result being that its male resembles the female of *obscura*.

Corresponding with the habitus, the holotype and one para-

type would fit into the genus *Protagrotis* under most existing classifications because of the possession of a single spine on each hind tibia. The other male paratype would have to be placed in the genus *Apamea* Ochsenheimer [in the sense of type *Phalæna* (*Noctua*) *chrysographa* D. & S.], as no trace of spines or spine sockets can be found on the tibiæ.

The writer is describing the anomalous new species in the latter genus (rather than in *Protagrotis*) because the male genitalia show a very close relationship to those of the genotype of *Apamea* as well as to the whole of the *nictitans* group of that genus. These insects, in common, each possess a large triangular projection from the base of the harpe (the clavus) plus an almost triangular and well defined cucullus which is produced without a conspicuous narrowing of the harpe. The latter character, the peculiar distal portion of the harpe, with the cucullus appearing almost as if superimposed, defines a group of several intimately related genera the larvae of which are borers; i. e., *Apamea*, *Hydroecia*, *Papaipema*, and allies; yet does not occur in the adults of many other borers, and is unknown elsewhere.

On the other hand, *Protagrotis obscura*, which *Apamea keiferi* so closely resembles, and with which it would be associated by many workers, has genitalia of the same general pattern as those of the *Agroperina* group of the Apatelinæ. The character of a single spine between the spurs of each hind tibia is obviously one which is sporadic in the Apatelinæ instead of being indicative of the subfamily Phalæninæ (=Agrotinæ). McDunnough (1928, Bul. 55, Nat. Mus. Can., p. 17) has already pointed out that *Protagrotis* "is essentially non-Agrotid and is better placed near *Luperina* and *Sidemia*." Furthermore, many examples of *Sidemia devastator* Brace (Apatelinæ) have a single spine on each hind tibia. Benjamin (1933, Pan-Pac Ent., 9:149) has discussed the presence or absence of spines in *Oligia minuscula* Morrison (Apatelinæ). In the last two mentioned instances the character of the presence or absence of spines does not assume specific significance.

The writer considers the above digression essential in order to illustrate his contention that the possession of a single spine on each hind tibia is of little significance and that this character should not be used to separate *Apamea keiferi* from the *nictitans* (typical) group of *Apamea*.